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09/700,747	11/20/2000	Benyahia Nasli-Bakir		4239

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EXAMINER

FLETCHER III, WILLIAM P

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 09/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/700,747	NASLI-BAKIR ET AL.
	Examiner	Art Unit
	William P. Fletcher III	1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 08 July 2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 39-46 and 56-93 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 39-46 and 56-93 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 16.

4) Interview Summary (PTO-413) Paper No(s). _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 07/08/2003 (paper no. 15) have been fully considered but they are not persuasive. Applicant has neither amended claim 39 nor specified how the combination of references in the action of 12/17/2002 (paper no. 13) fail to teach the invention of this claim. Consequently, applicant's arguments are not persuasive and the rejection of claim 39 is maintained.
2. Applicant's arguments with respect to new claims 40 – 93 have been considered but are moot in view of the new ground(s) of rejection set-forth below.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which *the claims* are directed.

The following title is suggested: METHOD OF SEPARATE APPLICATION OF RESIN AND HARDENER COMPONENTS OF AMINO RESIN GLUING SYSTEM.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 39, 41 – 46, 56 – 59, 70 – 76, and 78 – 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perciwall (EP 0 016 740 A1) in view of Andersson (EP 0 207 024 A2).**

7. Perciwall teaches a method of applying a gluing system to a substrate, the gluing system having an amino resin component and an acid hardener component [abstract and p. 4, l. 24 – p. 5, l. 22]. The gluing system is specifically a melamine-formaldehyde or urea-formaldehyde system used as an adhesive for the joining of wooden surfaces to form a laminate [p. 1, l. 1 – p. 2, l. 34, for example; p. 4, ll. 24 – 33; and p. 8, ll. 2 – 6]. The acid hardener may be formic acid [p. 5, l. 1]. The two components are kept separate right up to the joining of the two surfaces [p. 1, ll. 10 – 34].

8. Perciwall is silent with respect to whether or not the hardener comprises a filler. Based on this fact, it is the examiner's position that one of ordinary skill in the art would have reasonably interpreted the hardener of Perciwall as free from filler. Please note: a filler amount of less than a certain % by weight is inclusive of no filler at all.

9. Perciwall does not teach feeding the amino resin and hardener components to at least first and second orifices, respectively, or that the components are discharged through the orifices in the form of strands or as a spray onto the substrate.

10. Andersson teaches a method of applying a two-component gluing system to a substrate in which the resin component and the hardener component are separately applied to the substrate in the form of separate, parallel strands [abstract]. The components are applied through a nozzle (i.e., orifice) [p. 6, ll. 9 – 17]. The two components do not contact each other until the substrate surfaces are joined together [p. 6, ll. 15 – 17].

11. It would have been obvious to one of ordinary skill in the art to modify the process of Perciwall so as to apply the components in the form of separate, parallel strands, as taught by Andersson. One of ordinary skill in the art would have been motivated to do so by the desire and expectation of preventing pre-curing of the adhesive to the greatest extent possible.

12. Although Andersson teaches application of the components from a nozzle, the reference does not specify whether it is the same nozzle or two separate, discrete nozzles. Both Perciwall and Andersson teach that pre-curing is undesirable because it necessitates frequent cleaning of the application apparatus [Perciwall: p. 1, ll. 9 – 21 and Andersson: p. 1]. Based on these teachings, it would have been obvious to one of ordinary skill in the art to apply each component from its own, individual, dedicated nozzle, so as to avoid fouling of the nozzle that would require cleaning.

13. With specific respect to claims 46, 71, 83, and 88, Perciwall is silent as to the amount of volatile acid present in the hardener composition. Generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical [MPEP § 2144.05(II)(A)]. Further, it is the examiner's position that the amount of volatile acid in the hardener composition will effect the setting time of the resin component, and will depend on other components present in the

hardener composition, as well as the nature of the substrate to which the composition is applied. Volatile acid concentration is, therefore, a result-effective variable. Absent clear and convincing evidence of unexpected results demonstrating the criticality of the claimed volatile acid concentration, it would have been obvious to one of ordinary skill in the art to optimize such a result effective variable by routine experimentation [MPEP § 2144.05(II)(B)].

14. With specific respect to claims 59, 75, and 93, Perciwall teaches that “preferably the hardener component...does not contain any thickening additives” [p. 5, ll. 20 – 22]. It is clear from this teaching that, although not *preferred*, thickeners *may* be present in the hardener.

15. With specific respect to claims 42 – 45 and 79 – 82, it is clear that, as soon as the components are mixed, curing begins. The particular physical orientation of the strands on the substrate effect the speed and degree of curing; such would have been readily apparent to one of ordinary skill in the art. Consequently, absent clear and convincing evidence to the contrary, it would have been obvious to select the orientation of resin and hardener strands to give the desired curing rate and substrate coverage. In other words, for a quicker cure, strands are applied with a greater degree of overlap so that curing may begin before the substrates are joined. For a longer cure, strands are applied with a lesser degree of overlap.

16. **Claims 40 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perciwall (EP 0 016 740 A1) in view of Andersson (EP 0 207 024 A2) as applied to claims 39 and 76, respectively, above, and further in view of Menger (US 2,015,806 A).**

17. The combined teaching of Perciwall in view of Andersson re: claims 39 and 76 is detailed above. Neither of these references teach that the resin component is applied in the form of strands and, thereafter, the hardener is applied by means of spraying.

18. Menger teaches a process for the adhesive joining of wood in which a resin and hardener are separately applied, the hardener applied by spraying [c. 2, ll. 32 – 37].

19. It would have been obvious to one of ordinary skill in the art to modify the process of Perciwall in view of Andersson so as to apply the hardener by spraying, as taught by Menger. One of ordinary skill would have been motivated to do so by the desire and expectation of successfully applying the hardener to the resin-coated substrate.

20. **Claims 60 – 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perciwall (EP 0 016 740 A1) in view of Andersson (EP 0 207 024 A2) and Toshio (JP 61-040137).**

21. The combined teachings of Perciwall and Andersson is detailed above. Neither of these references teaches that the resin and hardener components are discharged from different hollow members each having a plurality of orifices, the orifices of one said hollow member being either aligned in, or parallel displaced in, a machine direction in relation to the corresponding orifices of the other said hollow member.

22. Toshio teaches a process for the manufacture of a laminate in which the components are applied in strands from hollow members each having a plurality of orifices, the orifices being aligned in, or parallel displaced in, a machine direction in relation to the corresponding orifices of the other said hollow member [abstract and Fig. 1].

23. It would have been obvious to one of ordinary skill in the art to modify the process of Perciwall in view of Andersson so as to utilize the hollow application members of Toshio. One of ordinary skill would have been motivated to do so by the desire and expectation of successfully applying the components of the resin to the substrate.

24. With specific request to claims 61 – 64, it is clear that, as soon as the components are mixed, curing begins. The particular physical orientation of the strands on the substrate effect the speed and degree of curing; such would have been readily apparent to one of ordinary skill in the art. Consequently, absent clear and convincing evidence to the contrary, it would have been obvious to select the orientation of resin and hardener strands to give the desired curing rate and substrate coverage. In other words, for a quicker cure, strands are applied with a greater degree of overlap so that curing may begin before the substrates are joined. For a longer cure, strands are applied with a lesser degree of overlap.

25. With specific respect to claim 65, Perciwall is silent as to the amount of volatile acid present in the hardener composition. Generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical [MPEP § 2144.05(II)(A)]. Further, it is the examiner's position that the amount of volatile acid in the hardener composition will effect the setting time of the resin component, and will depend on other components present in the hardener composition, as well as the nature of the substrate to which the composition is applied. Volatile acid concentration is, therefore, a result-effective variable. Absent clear and convincing evidence of unexpected results demonstrating the criticality of the claimed volatile acid concentration, it

would have been obvious to one of ordinary skill in the art to optimize such a result effective variable by routine experimentation [MPEP § 2144.05(II)(B)].

26. With specific respect to claims 69, Perciwall teaches that “preferably the hardener component...does not contain any thickening additives” [p. 5, ll. 20 – 22]. It is clear from this teaching that, although not *preferred*, thickeners *may* be present in the hardener.

27. **Claims 39, 41 – 45, 56 – 59, 70 – 76, 78 – 82, 84 – 87, and 89 – 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson (US 0 207 024 A2) in view of Lehnert (WO 89/05221 A1).**

28. Andersson is described in the preceding paragraphs. This reference does not teach that the gluing system is an amino resin gluing system or feeding the amino resin and hardener components to at least first and second orifices, respectively.

29. The gluing system of Andersson is a formaldehyde-based adhesive, preferably resorcinol-formaldehyde or resorcinol-phenolformaldehyde [p. 2, ll. 5 – 11].

30. Lehnert teaches the equivalence of phenol and amino resins as conventional two-component adhesives in the art of joining wooden surfaces to form laminates, including condensation products of formaldehyde and urea and/or melamine [p. 1, ll. 28 – 31 and p. 3, l. 37 – p. 4, l. 9].

31. Based on this teaching of equivalence, it would have been obvious to one of ordinary skill in the art to modify the process of Andersson by substituting, as the gluing system, the amino resin gluing system of Lehnert. One of ordinary skill in the art would have been

motivated to do so by the desire and expectation of successfully joining wooden surfaces to form a laminate.

32. Lehnert is silent with respect to whether or not the hardener component includes a filler. Based on this fact, it is the examiner's position that one of ordinary skill in the art would have reasonably interpreted the hardener of Lehnert as free from filler. Please note: a filler amount of less than a certain % by weight is inclusive of no filler at all.

33. As noted above, it would have been obvious to one of ordinary skill in the art to apply each component from its own individual, dedicated nozzle, so as to avoid fouling of the nozzle that would require cleaning.

34. With specific respect to claim 59, Lehnert is silent with respect to whether or not the hardener component includes a thickener. Based on this fact, it is the examiner's position that one of ordinary skill in the art would have reasonably interpreted the hardener of Lehnert as free from thickener.

35. With specific respect to claims 42 – 45 and 79 – 82, it is clear that, as soon as the components are mixed, curing begins. The particular physical orientation of the strands on the substrate effect the speed and degree of curing; such would have been readily apparent to one of ordinary skill in the art. Consequently, absent clear and convincing evidence to the contrary, it would have been obvious to select the orientation of resin and hardener strands to give the desired curing rate and substrate coverage. In other words, for a quicker cure, strands are applied with a greater degree of overlap so that curing may begin before the substrates are joined. For a longer cure, strands are applied with a lesser degree of overlap.

36. **Claims 46, 83, and 88 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Andersson (EP 0 207 024 A2) in view of Lehnert (WO 89/05221 A1), as applied to claims 49, 80, and 87, respectively, above, in further view of Perciwall (EP 0 016 740 A1).**

37. The combined teaching of Andersson and Lehnert is detailed above. Neither of these references teaches that the hardener comprises formic acid in an amount of 10 – 30% by weight, although Lehnert does teach: “When the adhesive is an amino resin the hardener can for example be an inorganic or organic acid, such as phosphoric acid, trichloroacetic acid, citric acid or maleic acid” [p. 4, ll. 21 – 24].

38. Perciwall teaches the equivalency of formic acid with phosphoric, trichloroacetic, citric, and maleic acid as a hardener for amino resin systems [p. 4, l. 37 – p. 5, l. 2]. Consequently, it would have been obvious to one of ordinary skill in the art to modify the process of Andersson in view of Lehnert so as to utilize, as the hardener composition, a composition comprising formic acid, as suggested by Perciwall. One of ordinary skill would have been motivated to do so by the desire and expectation of successfully curing the amino resin.

39. Further, Perciwall is silent as to the amount of volatile acid present in the hardener composition. Generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical [MPEP § 2144.05(II)(A)]. Further, it is the examiner’s position that the amount of volatile acid in the hardener composition will effect the setting time of the resin component, and will depend on other components present in the hardener composition, as well as the nature of the substrate to which the composition is applied. Volatile acid concentration is, therefore, a result-effective variable. Absent clear and convincing evidence of unexpected results

demonstrating the criticality of the claimed volatile acid concentration, it would have been obvious to one of ordinary skill in the art to optimize such a result effective variable by routine experimentation [MPEP § 2144.05(II)(B)].

40. Claims 40 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson (EP 0 207 024 A2) in view of Lehnert (WO 89/05221 A1) as applied to claims 39 and 76, respectively, above, and further in view of Menger (US 2,015,806 A).

41. The combined teaching of Andersson and Lehnert re: claims 39 and 76 is detailed above. Neither of these references teach that the resin component is applied in the form of strands and, thereafter, the hardener is applied by means of spraying.

42. Menger teaches a process for the adhesive joining of wood in which a resin and hardener are separately applied, the hardener applied by spraying [c. 2, ll. 32 – 37].

43. It would have been obvious to one of ordinary skill in the art to modify the process of Andersson in view of Lehnert so as to apply the hardener by spraying, as taught by Menger. One of ordinary skill would have been motivated to do so by the desire and expectation of successfully applying the hardener to the resin-coated substrate.

44. Claims 60 – 64 and 66 – 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson (EP 0 207 024 A2) in view of Lehnert (WO 89/05221 A1) and Toshio (JP 61-040137).

45. The combined teachings of Andersson and Lehnert is detailed above. Neither of these references teaches that the resin and hardener components are discharged from different hollow

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members each having a plurality of orifices, the orifices of one said hollow member being either aligned in, or parallel displaced in, a machine direction in relation to the corresponding orifices of the other said hollow member.

46. Toshio teaches a process for the manufacture of a laminate in which the components are applied in strands from hollow members each having a plurality of orifices, the orifices being aligned in, or parallel displaced in, a machine direction in relation to the corresponding orifices of the other said hollow member [abstract and Fig. 1].

47. It would have been obvious to one of ordinary skill in the art to modify the process of Andersson in view of Lehnert so as to utilize the hollow application members of Toshio. One of ordinary skill would have been motivated to do so by the desire and expectation of successfully applying the components of the resin to the substrate.

48. With specific request to claims 61 – 64, it is clear that, as soon as the components are mixed, curing begins. The particular physical orientation of the strands on the substrate effect the speed and degree of curing; such would have been readily apparent to one of ordinary skill in the art. Consequently, absent clear and convincing evidence to the contrary, it would have been obvious to select the orientation of resin and hardener strands to give the desired curing rate and substrate coverage. In other words, for a quicker cure, strands are applied with a greater degree of overlap so that curing may begin before the substrates are joined. For a longer cure, strands are applied with a lesser degree of overlap.

49. **Claim 65 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson (EP 0 207 024 A2) in view of Lehnert (WO 89/05221 A1) and Toshio (JP 61-040137), as applied to claim 60 above, in further view of in further view of Perciwall (EP 0 016 740 A1).**

50. The combined teaching of Andersson, Lehnert, and Toshio is detailed above. None of these references teaches that the hardener comprises formic acid in an amount of 10 – 30% by weight, although Lehnert does teach: “When the adhesive is an amino resin the hardener can for example be an inorganic or organic acid, such as phosphoric acid, trichloroacetic acid, citric acid or maleic acid” [p. 4, ll. 21 – 24].

51. Perciwall teaches the equivalency of formic acid with phosphoric, trichloroacetic, citric, and maleic acid as a hardener for amino resin systems [p. 4, l. 37 – p. 5, l. 2]. Consequently, it would have been obvious to one of ordinary skill in the art to modify the process of Andersson in view of Lehnert and Toshio so as to utilize, as the hardener composition, a composition comprising formic acid, as suggested by Perciwall. One of ordinary skill would have been motivated to do so by the desire and expectation of successfully curing the amino resin.

52. Further, Perciwall is silent as to the amount of volatile acid present in the hardener composition. Generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical [MPEP § 2144.05(II)(A)]. Further, it is the examiner’s position that the amount of volatile acid in the hardener composition will effect the setting time of the resin component, and will depend on other components present in the hardener composition, as well as the nature of the substrate to which the composition is applied. Volatile acid concentration is, therefore, a result-effective variable. Absent clear and convincing evidence of unexpected results

demonstrating the criticality of the claimed volatile acid concentration, it would have been obvious to one of ordinary skill in the art to optimize such a result effective variable by routine experimentation [MPEP § 2144.05(II)(B)].

Conclusion

53. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P. Fletcher III whose telephone number is (703) 308-7956. The examiner can normally be reached on Monday through Friday, 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (703) 308-2333. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

William P. Fletcher III
Examiner
Art Unit 1762

WPF 09/16/2003



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